Commentary

Surgical resection of liver metastasis from colorectal cancer: targeting local therapy to systemic disease

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It is somewhat counterintuitive that a local therapy such as surgery would be effective in treating the systemic spread of cancer. Yet accumulating data suggest that surgical resection of liver metastasis from colorectal cancer confers a significant survival advantage on an expanding population of carefully selected patients.

In the past, surgical resection of metastatic liver disease was undertaken in less than 5% of patients with colorectal cancer. More recently, a growing number of case series reported surprising 5-year survival rates ranging from 20%–58% in carefully selected patients with liver metastasis undergoing surgical resection. These impressive survival figures far exceed the single-digit 5-year survival rates of unselected patients with stage IV disease treated with systemic therapy of any kind. In addition, series analyzing patients with potentially resectable liver metastasis who were not treated surgically report 5-year survival rates of only up to 8%. Taken together, the body of evidence signals a renewed interest in the surgical approach to liver metastasis from colorectal cancer.

Optimism for multimodality treatment

In the accompanying article, Dr. Kenneth Tanabe reviews recent progress that allows a larger number of patients access to effective surgical approaches to liver metastasis. These advances encompass patient selection, systemic therapies, surgical and ablative techniques, as well as other novel approaches.

Improved patient selection is possible through judicious application of widely available state-of-the-art imaging techniques, such as high-resolution CT scanning, PET and PET-CT imaging, and contrast-enhanced MRI. These methods allow more precise selection of patients likely to benefit from a surgical approach.

More effective systemic therapies are available for preoperative use, with the goal of downstaging disease to a potentially resectable level. Used postoperatively, new agents can potentially improve long-term tumor control. Such approaches are the subject of a dozen currently open phase II/III studies evaluating various systemic therapies in combination with surgery for liver metastasis.[1]

Revised surgical approaches abandon the stringent requirement of a margin negative by 1 cm in favor of a histologically negative margin of any width. This approach expands the population of potentially resectable patients. In addition, a significant fraction of patients with disease in hepatic pedicle lymph nodes and elsewhere (eg, the lungs) has been shown to benefit from a comprehensive surgical approach. The combination of resection with other techniques such as radiofrequency ablation and cryoablation further decreases the burden of viable tumor cells.

Moreover, use of preoperative portal vein embolization to improve hepatic function in the future hepatic remnant also expands the population of patients who meet the requirement to retain 20%–30% of a preoperative liver mass. In addition to these advances, other novel approaches include viral oncolysis and regional hyperthermic perfusion. The role these sophisticated and demanding techniques will play in the treatment of liver metastasis awaits technologic refinement and evaluation in larger patient populations.

Optimism for multimodality treatment of liver metastasis is shared by other experts as described at a recent consensus conference[2] and in a comprehensive review.[3] However, advances can only benefit patients to whom they are appropriately offered. Community oncologists will most effectively obtain a survival advantage for their patients by recognizing those who may benefit from new approaches and partnering them with a team experienced in using new techniques.

References

1. National Cancer Institute. PDQ. Available at: http://www.cancer.gov/cancertopics/pdq/cancerdatabase. Accessed July 25, 2006.
2. Program of the AHPBA 2006 Consensus Conference; January 25, 2006; San Francisco, Calif.
3. Bentrem DJ, Dematteo RP, Blumgart LH. Surgical therapy for metastatic disease to the liver. Annu Rev Med 2005;56:139–156.

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